



Physics Department

Electronic Systems for Experiments Group

CERN Electronics Pool

User Guide

Version 6
7 April 2015

CERN Electronics Pool

Location: Building 13-R-09

Telephone: 73329

Email: electronics-pool@cern.ch

URL: <http://cern.ch/pool>

Opened daily: 10:00 to 12:00 and 2:00 to 4:00

Foreword

This User Guide regroups and rationalises a number of explanatory notes and guidelines issued over a number of years.

The mission of the Electronics Pool is to provide a rental service to meet as far as possible the needs of the user community at CERN for laboratory instruments, modular electronics and power supplies. The laboratory instruments are now becoming a large part of the offered instruments and people are more than welcome to make suggestions for instruments to be introduced at CERN Electronics Pool. The requests will be considered as long as they refer to general usage at CERN and can be purchased according to CERN rules.

The CERN Electronics Pool is operated by the PH-ESE¹ Group allowing a good synergy with users of these instruments and technologies.

The CERN Electronics Pool staff can also provide help with equipment belonging to users in terms of technical expertise or logistics (contacts with suppliers, maintenance, fault finding).

Catherine Moine

Catherine Moine
Head of Electronics Pool
7 April 2015

¹ PH department, Electronic Systems for Experiments Group

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Part 1: OPERATION

1.1 Contacts

Electronics Pool Reception	Location: Building 13-R-009Telephone: 73329 Email: electronics-pool@cern.ch
Electronics Pool Manager	Catherine Moine (Head of Electronics Pool) Telephone: 75035, 160849 Email: catherine.moine@cern.ch
PH-ESE-BE Section Leader	François Vasey Telephone: 73885 Email: francois.vasey @cern.ch
Electronics Pool Phone book reference:	https://phonebook.cern.ch

1.2 Renting equipment

It is important to note that the rental of equipment from the CERN Electronics Pool is subject to the regulations stated in Part 2: of this User Guide.

1.2.1 Choose the equipment required and check its availability

Users are advised to consult the [Selection guides](#) and the on-line Equipment Catalogue available from the Electronics Pool web site (<http://cern.ch/pool>).

The catalogue can also be accessed from EDH rental requests. EDH rental requests are not mandatory and users are invited to consult Electronics Pool staff to facilitate equipment selection.

The Equipment Catalogue gives not only a list of equipment, but shows the number of items available and allows access to on-line documentation. In the event the Equipment Catalogue shows that a particular item is not available (zero stock), it is nevertheless worthwhile contacting the Pool Reception to check its status in case of recent returns, etc. The list of people renting the selected instruments is available from the catalogue.

1.2.2 Request and collect the equipment

The Equipment required may be requested directly at the Pool Reception office (building 13-R09) with CERN Id and a valid CERN budget code or via a web form available from the Pool web site and from the EDH web site. If available, the equipment may be collected from the Pool Reception office for immediate use.

1.2.3 Responsibility for equipment

Initial responsibility

When a user collects instrument(s) at the Electronics Pool, he indicates the name of a budget holder and the associated budget code. He then signs a paper form indicating that he is taking the responsibility for the equipment.

An Email is sent to both the budget holder and the user with the detailed reference for this rental.

Transfer of user responsibility

In case, the original user is changing function or is leaving CERN, he must indicate to the Electronics Pool the new person responsible for the device. This can be done through the departure form issued by HR.

It is the responsibility of the user to ensure that the transfer of his responsibility is correctly transmitted to the Electronics Pool.

Transfer of responsibility to another budget code and/or budget holder

A simple Email of both budget holders, the current one and the new one, agreeing on the transfer is sufficient. The details of the user taking the responsibility for the instruments might be reviewed at the same time.

1.2.4 Order ahead

The Electronics Pool normally keeps a small stock of popular items. If a large quantity is required, or if the Equipment Catalogue shows the item to be out of stock, please make contact with the Electronics Pool operations to discuss your requirements. The Electronics Pool cannot guarantee to meet all requirements, although in most cases efforts will be made to satisfy reasonable requests.

Electronics Pool web site at:

<http://cern.ch/pool>

1.2.5 Out of hours service

In urgent cases for running experiments or test beams, equipment may be obtained or exchanged out of working hours. Please contact the Electronics Pool Operations Manager (tel. 75035, 160849, electronics-pool@cern.ch) for more information.

1.3 Documentation

All Electronics Pool equipment in the “current” technical support classes (i.e. not “declassified”) comes at least with basic documentation. In some cases this is complemented with a short-form data-sheet and other information. This documentation is most of the time available in electronic form from the Equipment Catalogue via links to the documentation database.

**For all questions concerning documentation, please write to:
electronics-pool@cern.ch**

1.4 Rental fees

Rental fees are calculated on a per day basis and are debited monthly from the corresponding CERN budget account. The rental fee for each Electronics Pool item is indicated in the Equipment Catalogue.

Payments will cease only following the return of the equipment to the Electronics Pool reception or following the payment of compensation for its loss or irreparable damage (refer to section 2.3.1)

1.5 Repair

Defective equipment must be returned to the Electronics Pool reception for repair. In most cases the defective item will be replaced immediately (refer to part3: for details of the available technical support).

No attempt must be made to repair or modify Electronics Pool equipment or to contact directly the equipment manufacturer for any repair or modification. Any costs incurred by such action will not be paid by the Electronics Pool and the user will be charged for any work necessary to return the equipment to its initial state.

1.6 Calibration

Calibration is only included in the rental fees when a test of the instrument cannot be performed at Electronics Pool. This is the case for a few high end instruments like high-bandwidth digital oscilloscopes, fast signal generators, etc. In most cases, the instrument can be checked against its tolerance value at the CERN Electronics Pool

1.7 Technical advice

In case of difficulties with the use of Electronics Pool equipment, please refer to the contacts listed in Part 1.1 for more information.

(Refer to section Part 3: for details on the available level of support).

PH-ESE Electronics Pool Manager:
Catherine Moine – Tel. 75035 or 160489

1.7.1 How to select the instrument you need

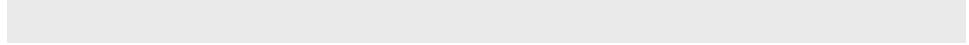
In case of doubt with selecting equipment in the Electronics Pool data base, you can refer to the selection guides available from the main Electronics Pool page: <http://cern.ch/pool>.

The best way is most of the time to come to the CERN Electronics Pool during opening hours (10:00-12:00 and 2:00-4:00 pm) and explain your requirements.

1.7.2 Maintenance of the instruments

Each instrument is tested after each allocation and its firmware updated when relevant.

In case of doubt with an instrument you are renting, please contact CERN Electronics Pool (73329 or electronics-pool@cern.ch) in order to arrange for a check of the instrument.



1.8 High performance laboratory instruments and advisory panel

The high cost of instruments such as high-bandwidth digital oscilloscopes, fast signal generators, powerful logic analysers, etc., prevents their purchase in large quantities.

These instruments are operated in collaboration with “experts” and are available for rent only under certain conditions; please contact Electronics Pool Manager (refer to contact 1.1) or electronics-pool@cern.ch. A flat rental fee of at least one month might be required.

1.9 Spares

For most items and especially those in Full Support (see 3.1 Support Classification), a minimum stock of equipment is kept in order to assure the immediate availability of spares. Exceptions include items held in small quantities or very costly items. In all case, best effort will be made to replace or repair defective items as soon as possible.

Part 2: REGULATIONS

2.1 General access

The Pool is open to all groups registered at CERN.

Opening hours: every working day: 10:00 to 12:00 and 2:00 to 4:00 pm

2.2 Individual access

Access to the CERN Electronics Pool is allowed to all users having access to the CERN Stores. For all rentals or returns of equipment the user must present his CERN access card at the Pool reception (Bldg. 4-R-050).

2.3 Responsibility for equipment

Rented equipment is entirely under the responsibility of the user until it is returned to the Pool Reception. However, it remains the property of the Pool, and must not be modified, updated or transported outside CERN premises without prior agreement of the Electronics Pool management.

2.3.1 Compensation for lost or badly damaged equipment

Loss of equipment, whether accidental, resulting from theft or through irreparable major electrical or mechanical damage must be declared to the Electronics Pool Reception as soon as possible. The payment of a compensation fee to the Pool in such cases is a mandatory condition of the rental agreement.

Lost equipment will be removed from the Pool active instrument data base, and rental charges will be suppressed following the payment of a compensation.

Refer to 2.4.1 for details of the compensation fee.

Time allowed finding back lost equipment

When a user or a budget holder declares the loss of equipment, some extra time is allowed to find it back. Electronics Pool staff will help locating the equipment when feasible. After a few months, when the situation is finally reviewed, the rental fees for that period will be deducted from the compensation of the lost equipment. Positive credit will not be issued, unless special circumstances which will be discussed with the Electronics Pool management,

Property of compensated equipment Compensated equipment still belongs to the Electronics Pool. The compensation paid is in no case a pay back and does not necessarily cover the real cost of the instrument.

If found again, compensated equipment must be returned to the Electronics Pool. Provided the equipment was not damaged (see 1.5), the compensation may be recalculated ensuring fair treatment of the user and the Electronics Pool.

2.3.2 Radiation areas

The Electronics Pool equipment must in no case be installed in radiation areas. In case this happens, the equipment is to be rented during the entire period when it cannot be rented again. A compensation can also be discussed with Electronics Pool management.

2.3.3 Accessories

Accessories such as special cables, probes, etc., as well as documentation must be returned to the Pool with the instruments. In case, they are not returned, the instrument might still be charged until the accessories are returned to the Electronics Pool Reception.

2.4 Financial conditions

Rental fees are charged monthly and calculated on a daily basis. The monthly rental fee is indicated on the catalogue, on the mail the user and the budget holder receives and on the Pool form which the user signs whenever equipment is taken from Pool. The Budget Holder must make sure that his budget code is sufficiently provisioned at all times.

2.4.1 Charges

Rental fee

The initial rental rate for a new type of equipment is set at a level corresponding to its initial cost, likely lifetime, use and reliability. This rental fee might be adjusted annually based on statistics from the Pool's database management system in order to align the real cost of maintaining the equipment in the Pool's inventory to the revenue it generates following consultation with PH management.

No rental fee is charged for declassified equipment. Compensation payment

The compensation payable in case of loss or major damage is set at 100% of the purchase price for the first year of the item's life, decreasing by 10% per year to a minimum of 10%, except in the case of CAMAC and equipment in Reduced Support where the price is decreased to a minimum of 5%.

Invoicing procedure

The Pool database is integrated with other CERN administrative tools and the Pool rental invoicing procedure is fully automatic. Budget holders will see their accounts debited at monthly intervals.

Electronics Pool users have access to the details concerning their rental fees from the CERN Expenditure Tracking (CET) utility by clicking on "Electronics Pool" and from the Pool catalogue under the "account" tab

2.4.2 Sale and disposal of Pool equipment

Current equipment

Equipment, mostly under Reduced Support, may be available for purchase at the price of its compensation value (refer to 2.4.1), subject to the following conditions:

1. The equipment is not part of the Pool's technical profile anymore,
2. All support will cease at resale (no spares or repairs).

2.5 Use of Electronics Pool equipment off the CERN site

In exceptional circumstances, Electronics Pool equipment may be used in a location off the CERN site, subject to the following conditions:

1. The loan is in direct relation with an approved CERN experiment.
2. The user holds a valid CERN budget code.
3. The user pays any shipping and insurance charges. (The Pool Reception may help ensuring that the correct procedures are followed for the exportation).
4. The equipment may stay off-site for a maximum of three years (or the period indicated on the export documents), after which it must be returned to the Electronics Pool at the user's charge (transport and insurance). Failure to return the equipment will result in the user being billed for the equipment according to the Electronics Pool's conditions at that time, and the user having to make the necessary arrangements for its import to the country of use according to local regulations and taxes.
5. In the case of total loss of equipment through accident or theft, the user shall reimburse the Electronics Pool for the value of the equipment (refer to Section 2.3.1) as well as any customs duty payable directly to the competent national authorities.
6. All other Electronics Pool terms and conditions apply.

The user will fill an EDH transport request for each Electronics Pool inventory number being shipped off site indicating PH-ESE-BE as owner of the equipment, thus allowing the Electronics Pool to authorize and sign the request before it leaves CERN.

Part 3: SUPPORT CLASSIFICATION

3.1 Classes

Technical support for Electronics Pool equipment is given at one of four levels, as

LEVEL	ACTION	DEFINITION
FULL SUPPORT	Availability	Small requests can be satisfied within the limits of the available stock. Requests that cannot be satisfied are recorded and may be taken into account for additional purchasing. Requests for large quantities should be made in advance to the Electronics Pool Operations. In certain cases purchase may take several months.
	Evaluation	A thorough check has been made that the equipment performs to the manufacturer's specification. A report is available on request.
	Verification	Each equipment is verified for full functionality and performance at initial delivery time and after each return to the Pool
	Spares	A quantity of spares is kept in stock and in normal circumstances a non-working item can be replaced immediately
	Support	Detailed knowledge of the equipment exists locally, and verification procedures are available. Equipment in use can be checked or calibrated in some special cases on request.
	Repair	Non-functioning equipment is in most cases repaired outside CERN. Typical repair time is 6 to 10 weeks.
	Documentation	Detailed documentation exists, and in most cases is available on-line.
SPECIAL EQUIPMENT	Specific equipment where the level of support is decided on a case-by-case basis. Typically high performance instruments and other very specific items fall in this category. All the Full Support conditions apply apart from the fact that no spare is available	
REDUCED SUPPORT	Availability	No additional equipment will be purchased
	Verification	Each equipment is verified for full functionality every time it is returned to the Pool, but only if the necessary test instrumentation has been maintained in operational state, and if expertise is available.
	Spares	Replacements for non-functioning items will be taken from any remaining stock
	Support	Technical support will be provided if available
	Repair	Repairs will be made only in exceptional cases. Non-functioning equipment returned to the Pool will be disposed of or used for spare parts.
	Documentation	Detailed documentation exists, and in most cases is available on-line
DECLASSIFIED	No technical or other support is given, and no documentation is available.	

Part 4: SELECTION OF NEW EQUIPMENT

Any user may propose *new types* of equipment for inclusion in the Electronics Pool. Proposals should be made to Electronics Pool operations (refer to section 1.1). Please provide as much information as possible, including:

1. Justification (the equipment must be of general, rather than specific interest)
2. Data sheet, and any other relevant technical information,
3. Commercial contact,
4. Possible applications.

If accepted in principle, the equipment will be subjected to a technical evaluation to ensure its compliance with the manufacturer's specification. Following a successful evaluation, and subject to availability of funds, the equipment will be purchased.

It should be noted that the process to make new equipment available for rental could be long.